WHAT IS CLAIMED IS:

1. A method for suppressing the growth of enteric pathogens in the gut of livestock and the incidence of diseases related thereto, the method including administering an antimicrobial composition to the livestock, the antimicrobial composition comprising:

   (a) a cell wall lysing substance or its salt;

   (b) an antimicrobial substance; and

   (c) a sequestering agent.

2. A method according to claim 1, wherein the enteric pathogens include members of the following families of bacteria: *Clostridium perfringens, Escherichia coli, Salmonella* Typhimurium *and Salmonella* Mbandaka.

3. A method according to claim 1, wherein the cell wall lysing substance or its salt is lysozyme.

4. A method according to claim 1, wherein the antimicrobial substance is dried egg powder and /or albumen.

5. A method according to claim 4, wherein the sequestering agent is an organic acid.

6. A method according to claim 5, wherein the sequestering agent is a metal-chelator.

7. A method according to claim 5, wherein the sequestering agent is selected from disodium ethylenediaminetetraacetate (EDTA), citric acid or chitosan.

8. A method according to claim 1, wherein the composition further comprises a lantibiotic.

9. A method according to claim 8, wherein the lantibiotic is nisin.

10. A method according to claim 1, wherein the antimicrobial composition is in powdered or aqueous solution form.

11. A method according to claim 1, wherein the antimicrobial composition is a feed additive.

12. A method according to claim 1, wherein the diseases include necrotic enteritis, *Clostridium perfringens* enteritis and diarrheal disease.

13. A method according to claim 1, wherein the ratio of the antimicrobial composition is 2:5:3 by weight.

14. A method according to claim 4, wherein the dried egg powder suppresses the growth of additional microbes such as molds and viruses in the livestock gut.

15. A method according to claim 4, wherein the dried egg powder suppresses additional enzymes such as proteases and lipases in the livestock gut.

16. A method according to claim 1, wherein the antimicrobial composition is administered in aqueous form by mixing the antimicrobial composition with drinking water for the livestock.

17. A method according to claim 16, wherein the antimicrobial composition has a final concentration of approximately 100 to 200 parts per million.

18. A method according to claim 1, wherein the antimicrobial composition is administered as a food additive.

19. A method according to claim 18, wherein the antimicrobial composition has a final concentration of approximately 100 to 200 parts per million.

20. A method for suppressing the growth of enteric pathogens in the gut of livestock and the incidence of diseases related thereto, the method

including administering an antimicrobial composition to the livestock, the antimicrobial composition comprising:

(a) a cell wall lysing substance or its salt;

(b) an antimicrobial substance;

(c) a sequestering agent; and

(d) a lantibiotic.

21. A method according to claim 20, wherein the ratio of the the cell wall lysing substance or its salt, the antimicrobial substance, the sequestering agent and the lantibiotic are approximately 50:150:50:20 by weight.

22. An antimicrobial composition for suppressing the growth of enteric pathogens in the gut of livestock and the incidence of diseases related thereto, the antimicrobial composition comprising:

(a) a cell wall lysing substance or its salt;

(b) a antimicrobial substance;

(c) a sequestering agent; and

(d) a lantibiotic.

23. An antimicrobial composition according to claim 22, wherein the enteric bacterial pathogens include members of the following families of bacteria: *Clostridium perfringens, Escherichia coli, Salmonella* Typhimurium *and Salmonella* Mbandaka.

24. An antimicrobial composition according to claim 22, wherein the cell wall lysing substance or its salt is lysozyme.

25. An antimicrobial composition according to claim 22, wherein the antimicrobial substance is dried egg powder and /or albumin.

26. An antimicrobial composition according to claim 22, wherein the sequestering agent is an organic acid.

27. An antimicrobial composition according to claim 22, wherein the sequestering agent is a metal-chelator.

28. An antimicrobial composition according to claim 22, wherein the sequestering agent is selected from disodium ethylenediamine tetraacetate (EDTA), citric acid or chitosan.

29. An antimicrobial composition according to claim 22, wherein the lantibiotic is nisin.

30. An antimicrobial composition according to claim 22, wherein the antimicrobial composition is in powdered or aqueous solution form.

31. An antimicrobial composition according to claim 22, wherein the antimicrobial composition is a feed additive.